

Claims

1. A method for processing service requests in a domain  
of a network, wherein the network comprises a plurality  
5 of domains, wherein said service requests originate from  
a user terminal associated with a service node of said  
domain, and wherein at least one domain of said plurality  
of domains comprises at least a service request input  
node, an intermediate node, a database, an entry node,  
10 and a plurality of service nodes, and wherein said  
service request input node is connected to said  
intermediate node, to said entry node and to said service  
nodes, said intermediate node is further connected to  
said database and to said service nodes, and said service  
15 nodes are further connected to each other; said method  
comprising:

analyzing an incoming service request in a service  
request input node in terms of destination information  
contained in a service request;

20 determining in said service request input node,  
whether the destination information enables a direct  
forwarding of said service request to a destination;

redirecting said service request by said service  
request input node, if said determining determines that  
25 said direct forwarding is not enabled; wherein said  
redirecting comprises

transmitting a received service request by said  
service request input node to an intermediate node;

based on said received service request,  
30 performing a look-up in a database by said intermediate  
node for obtaining destination information required to  
enable a forwarding of said service request to said  
destination;

sending said destination information from said  
35 intermediate node to said service request input node; and

based on said sent destination information,  
forwarding said service request from said service request  
input node to said destination.

- 5    2. A method according to claim 1, further comprising:  
direct forwarding said service request by said service  
request input node to said destination, if said  
determining determines that said direct forwarding is  
enabled.
- 10    3. A method according to claim 1, wherein said step of  
analyzing comprises analyzing said incoming service  
request in said service request input node comprising an  
entry node of said domain, and wherein an entry node  
15    receives said service request from outside of said  
domain.
- 20    4. A method according to claim 1, wherein said step of  
analyzing comprises analyzing said incoming service  
request in said service request input node comprising a  
service node of a plurality of service nodes of said  
domain, with which a user terminal originating said  
service request is not associated, wherein said one of  
the plurality of service nodes receives said service  
25    request from within said domain.
- 30    5. A method according to claim 4, wherein said step of  
determining comprises determining in said service request  
input node that the received service request from within  
said domain is destined for a user terminal associated  
with said service node of said plurality of service nodes  
of said domain, and in response redirects said service  
request.

6. A method according to claim 4, wherein said step of determining comprises determining in said service request input node that the received service request from within said domain is destined for a user terminal not  
5 associated with said service node of said plurality of service nodes of said domain, and forwards said service request to said entry node of said domain for relaying said service request to another domain.
- 10 7. A method according to claim 1, wherein said step of analyzing comprises analyzing said incoming service request contained in said service requests comprising AAA service requests associated with authentication, authorization, and accounting functions.
- 15 8. A method according to claim 7, wherein said step of analyzing comprises processing said service requests based on a Diameter base protocol.
- 20 9. A method according to claim 3, wherein said step of analyzing comprises analyzing said incoming service request in said service request input node comprising said entry node of said domain comprising a proxy node.
- 25 10. A method according to claim 3, wherein said step of analyzing comprises analyzing said incoming service request in said service request input node comprising said entry node of said domain comprising a relay node.
- 30 11. A method according to claim 1, further comprising:  
providing a network including a plurality of domains, wherein the network comprises an Internet, and wherein the plurality of domains are established by respective service providers.

12. A method according to claim 1, further comprising:  
providing a network including a plurality of domains,  
wherein the network comprises a Third Generation mobile  
communication network.

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13. A system for processing service requests in a domain  
of a network, wherein the network comprises a plurality  
of domains, wherein said service requests originate from  
a user terminal associated with a service node of said  
10 domain, and wherein at least one domain of said plurality  
of domains comprises at least a service request input  
node, an intermediate node, a database, an entry node,  
and a plurality of service nodes, and wherein said  
service request input node is connected to said  
15 intermediate node, to said entry node, and to said  
service nodes, said intermediate node is further  
connected to said database and to said service nodes, and  
said service nodes are further connected to each other;  
said system comprising:

20 analyzing means in a service request input node for  
analyzing an incoming service request in terms of  
destination information contained in a service request;

determining means in said service request input node  
for determining, whether the destination information  
25 enables a direct forwarding of said service request to a  
destination;

redirecting control means in said service request  
input node for controlling a redirecting of said service  
request, if said determining means determines that said  
30 direct forwarding is not enabled; wherein said  
redirecting is performed by

transmitting means in said service request  
input node for transmitting a received service request  
from said service request input node to an intermediate  
35 node;

look-up means in said intermediate node for performing, based on said service request received by receiving means, a look-up in a database for obtaining destination information required to enable a forwarding of said service request to said destination;

sending means in said intermediate node for sending said destination information from said intermediate node to said service request input node; and

forwarding means in said service request input node for forwarding said service request, based on said sent destination information, from said service request input node to said destination.

14. A system according to claim 13, further comprising:  
forwarding means in said service request input node for forwarding said service request to said destination, if said determining means determines that said direct forwarding is enabled.

15. A system according to claim 13, wherein said service request input node comprises an entry node of a domain, and wherein said entry node receives said service request from outside of said domain.

16. A system according to claim 13, wherein said service request input node comprises a service node of a plurality of service nodes of a domain, with which a user terminal originating said service request is not associated, wherein said one of the plurality of service nodes receives said service request from within said domain.

17. A system according to claim 16, wherein said service request input node comprises determining means for determining, whether the received service request from

within said domain is destined for a user terminal associated with said service node of said plurality of service nodes of said domain, and redirecting means for redirecting said service request, if said service request  
5 is destined for a user terminal being associated with said service node of said plurality of said domain.

18. A system according to claim 16, wherein said service request input node comprises determining means for  
10 determining, whether the received service request from within said domain is destined for a user terminal not associated with said service node of said plurality of service nodes of said domain, and forwarding means for forwarding said service request to an entry node of said  
15 domain for relaying said service request to another domain, if said service request is destined for a user terminal being associated with said service node of said plurality of service nodes of said domain.

20 19. A system according to claim 13, wherein said service requests comprise AAA service requests associated with authentication, authorization, and accounting functions.

20. A system according to claim 19, wherein service  
25 requests are processed based on a Diameter base protocol.

21. A system according to claim 15, wherein said entry node of said domain comprises a proxy node.

30 22. A system according to claim 15, wherein said entry node of said domain comprises a relay node.

23. A system according to claim 13,  
a network including a plurality of domains comprises an  
35 Internet and the plurality of domains are established by

respective service providers.

24. A system according to claim 13, further comprising:  
a network including a plurality of domains comprises a  
5 Third Generation mobile communication network.

25. An intermediate node for redirecting service requests  
within a domain of a network, wherein the network  
comprises a plurality of domains, wherein said  
10 intermediate node is connected to an entry node, to a  
database, and to a plurality of service nodes of said  
domain; said intermediate node comprising:

receiving means for receiving a service request from  
a service request input node;  
15 look-up means for performing, based on a received  
service request, a look-up in a database for obtaining  
destination information required for forwarding said  
service request to a destination; and  
sending means for sending said destination  
20 information from an intermediate node to said service  
request input node.

26. An intermediate node according to claim 25, wherein  
said service requests comprise AAA service requests  
25 associated with authentication, authorization, and  
accounting functions.

27. A service node of a domain of a network, wherein the  
network comprises a plurality of domains, wherein said  
30 service node provides services for a user terminal  
associated with said service node, wherein said services  
are requested by service requests originating from said  
user terminal, wherein said service node is connected to  
an entry node of said domain, to an intermediate node of

said domain which redirects service requests within said domain, and to service nodes of said domain.

28. A service node according to claim 27, wherein said  
5 service requests comprise AAA service requests associated with authentication, authorization, and accounting purposes functions.

29. A service request input node within a domain of a  
10 network, wherein the network comprises of a plurality of domains, wherein said service request input node processes service requests originated from user terminals of said network, and wherein said service request input node is connected to an intermediate node of said domain  
15 which redirects service requests within a domain, and to a plurality of service nodes of said domain; said service request input node comprising:

redirecting control means for controlling a  
redirecting of a received incoming service request;

20 transmitting means for transmitting said received incoming service request to an intermediate node for obtaining destination information required for forwarding a service request to a destination; and

forwarding means for forwarding said service  
25 request, based on said received destination information, from a service request input node to said destination.

30. A service request input node according to claim 29,  
wherein said service request input node comprises an  
30 entry node of a domain, and receives service requests from outside of said domain.

31. A service request input node according to claim 29,  
wherein said service request input node comprises a



service node of a domain, and receives service requests from within said domain.

32. A service request input node according to claim 31,  
5 further comprising:  
determining means for determining, whether the received incoming service request from within said domain is destined for a user terminal associated with said service node of said domain, and redirects said service request,  
10 if said service request is destined for a user terminal associated with said service node of said domain.

33. A service request input node according to claim 31, further comprising:  
15 determining means for determining, whether the received incoming service request from within said domain is destined for a user terminal not associated with said service node of said domain, and forwarding means for forwarding said service request to an entry node of said  
20 domain for relaying said service request to another domain, if said service request is destined for a user terminal not associated with a service node of said domain.

25 34. A service request input node according to claim 29, wherein said service requests comprise AAA service requests associated with authentication, authorization, and accounting functions.